RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DIVISION OF AIR RESOURCES
AIR POLLUTION CONTROL REGULATION NO. 35

CONTROL OF VOLATILE ORGANIC COMPOUNDS AND VOLATILE HAZARDOUS AIR POLLUTANTS FROM WOOD PRODUCTS MANUFACTURING OPERATIONS

35 Control of Volatile Organic Compounds and Volatile Hazardous Air Pollutants from Wood Products Manufacturing Operations

35.1 Definitions

As used in this regulation, the following terms shall, where the context permits, be construed as follows:

35.1.1. "Adhesive" means a chemical substance that is applied for the purpose of bonding two surfaces together other than by mechanical means.

35.1.2. "Alternative method" means a method of sampling and analyzing for an air pollutant that is not a reference or equivalent Environmental Protection Agency (EPA) sampling method but that has been demonstrated to the EPA's satisfaction to, in specific cases, produce results adequate for a determination of compliance.

35.1.3. "As applied" means the VOC, VHAP and solids content of the coating material as it is used for coating the substrate, including the contribution of thinners.

35.1.4. "Basecoat" means a coat of colored material, usually opaque, that is applied before graining inks, glazing coats, or other opaque finishing materials and is usually topcoated for protection.

35.1.5. "Capture device" means a hood, enclosed room, floor sweep, or other means of collecting solvent emissions or other pollutants into a duct so that pollutants can be directed to a pollution control device such as an incinerator or a carbon adsorber.

35.1.6. "Capture efficiency" means the fraction of all organic vapors generated by a process that are directed to a control device.

35.1.7. "Certified product data sheet" or "CPDS" means documentation furnished by a coating supplier or an outside laboratory that provides the VHAP content, VOC content, solids content, and density of a finishing material, strippable booth coating, adhesive, or solvent, measured using EPA Methods 24 and 311, or an equivalent or alternative method (or formulation data if the coating meets the criteria specified in Subsection 35.8.1(b)). The purpose of the CPDS is to assist the facility in demonstrating compliance with the emission limitations presented in Sections 35.3, 35.4 and 35.5 of this regulation. Therefore, the VOC and VHAP content should represent the maximum VOC and VHAP emission potential of the finishing material, strippable booth coating, or solvent.

35.1.8. "Cleaning operations" means operations in which organic solvent is used to remove coating materials from equipment used in wood products manufacturing operations.

35.1.9. "Coating" means a protective, decorative, or functional material applied in a thin layer to a surface. Such materials include, but are not limited to, paints, topcoats, varnishes, sealers, stains, washcoats, basecoats, adhesives, inks, enamels, and temporary protective coatings.

35.1.10. "Coating solids or solids" means the part of a coating that remains after the coating is dried or cured; solids content is determined using data from EPA Method 24.

35.1.11. "Compliant coating" means a finishing material, adhesive, or strippable booth coating that meets applicable emission limitations specified in Section 35.3 and 35.4 of this regulation.

35.1.12. "Contact adhesive" means an adhesive that is applied to two substrates, dried, and mated under only enough pressure to result in good contact. The bond is immediate and sufficiently strong to hold pieces together without further clamping, pressure, or airing.

35.1.13. "Continuous coater" means a finishing system that continuously applies finishing materials onto wood parts moving along a conveyor system. Finishing materials that are not transferred to the part are recycled to the finishing material

reservoir. Several types of application methods can be used with a continuous coater including spraying, curtain coating, roll coating, dip coating, and flow coating.

35.1.14. "Continuous compliance" means that the facility is meeting the applicable emission limitations and other applicable requirements of this regulation at all times and is fulfilling all monitoring and recordkeeping provisions of the regulation in order to demonstrate compliance.

35.1.15. "Control device" means any equipment that reduces the quantity of a pollutant that is emitted to the air. The device may destroy or secure the pollutant for subsequent recovery. Control devices include, but are not limited to, incinerators, carbon adsorbers, and condensers.

35.1.16. "Control device efficiency" means the ratio of the amount of pollutant released by a control device to the amount of pollutant introduced to the control device, expressed as a fraction.

35.1.17. "Control system" means the combination of capture and control devices used to reduce emissions to the atmosphere.

35.1.18. "Conventional air spray" means a spray coating method in which the coating is atomized by mixing it with compressed air at an air pressure greater than 10 pounds per square inch (gauge) at the point of atomization. Airless, air assisted airless, and electrostatic spray technologies are not considered conventional air spray methods.

35.1.19. "Day" means a period of 24 consecutive hours beginning at midnight local time, or beginning at a time consistent with a facility's operating schedule.

35.1.20. "Disposed offsite" means sending used organic solvent or coatings outside of the facility boundaries for disposal.

35.1.21. "Emission" means the release or discharge, directly or indirectly, of one or more air pollutants into ambient air.

35.1.22. "Enamel" means a coat of colored, usually opaque material that is applied as a protective topcoat over a basecoat, primer, or previously applied enamel coats. In some cases, another finishing material may be applied as a topcoat over the enamel.

35.1.23. "Enforceable Document" is a construction permit or operating permit issued according to the requirements of Air Pollution Control Regulation Nos. 9, 22, or 29; an approval issued under this regulation; or a consent agreement.

35.1.24. "Equipment leak" means emissions of VOC or VHAP from pumps, valves, flanges, or other equipment used to transfer or apply finishing materials, adhesives, or organic solvents.

35.1.25. "Equivalent method" means a method of sampling and analyzing for an air pollutant that EPA has determined to have a consistent and quantitatively known relationship to the reference method, under specific conditions.

35.1.26. "Facility" means all pollutant-emitting activities located in a building or buildings on one or more adjacent properties owned or operated by the same person.

35.1.27. "Filler" means a finishing material which is applied to a wood surface primarily to build up, or fill the voids and imperfections in, the wood surface to be coated. Edge filler is included in this definition.

35.1.28. "Finishing application station" means the part of a finishing operation where the finishing material is applied, e.g., a spray booth.

35.1.29. "Finishing material" means a coating other than an adhesive. For the wood products manufacturing industry, such materials include, but are not limited to, basecoats, stains, washcoats, enamels, sealers, and topcoats.

35.1.30. "Finishing operation" means those activities in which a finishing material is applied to a substrate and is subsequently air-dried, cured in an oven, or cured by radiation.

35.1.31. "Foam adhesive" means a contact adhesive used for gluing foam to fabric, foam to foam, and fabric to wood.

35.1.32. "Gluing operation" means those operations in which adhesives are used to join components, for example to apply a laminate to a wood substrate or foam to fabric.

35.1.33. "Halogenated Organic Compound" and "HOC" means the following compounds:

(a) CFC-11 (trichlorofluoromethane)
(b) CFC-12 (dichlorodifluoromethane)
(c) CFC-113 (1,1,1-trichloro 2,2,2-trifluoroethane)
(d) CFC-114 (1,2-dichloro 1,1,2,2-tetrafluoroethane)
(e) CFC-115 (chloropentafluoroethane)
(f) HCFC-22 (chlorodifluoromethane)
(g) HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)
(h) HCFC-124 (2-chloro 1,1,1,2-tetrafluoroethane)
(i) HCFC-141b (1,1-dichloro 1-fluoroethane)
(j) HCFC-142b (1-chloro 1,1-difluoroethane)
(k) methyl chloroform (1,1,1-trichloroethane)
(l) methylene chloride (dichloromethane)

35.1.34. "Hazardous Air Pollutant" and "HAP" means an air pollutant which has been listed pursuant to Section 112(b) of the Clean Air Act Amendments of 1990.

35.1.35. "High-solids stains" means stains containing more than one pound of solids per gallon and includes wiping stains, glazes, and opaque stains.

35.1.36. "Incinerator" means an enclosed combustion device that thermally oxidizes volatile organic compounds to CO and CO_2. This term does not include devices that burn municipal or hazardous waste material.

35.1.37. "Ink" means a fluid that contains dyes and/or colorants and is used to make markings, but not to protect surfaces.

35.1.38. "Low-solids stains" means stains containing one pound of solids per gallon, or less.

35.1.39. "Major source of Hazardous Air Pollutants" means a facility that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any Hazardous Air Pollutant (HAP), 25 tpy or more of any combination of HAPs, or such lesser quantity as the EPA may establish by rule.

35.1.40. "Malfunction" means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

35.1.41. "Multi-colored coating" means a coating which exhibits more

than one color when applied, and which is packaged in a single container and applied as a single coat.

35.1.42. "Nonpermanent final finish" means a material such as a wax, polish, nonoxidizing oil, or similar substance that must be periodically reapplied to a surface over its lifetime to maintain or restore the reapplied material's intended effect.

35.1.43. "Operating day" means a day, or any part of a day, in which a facility is engaged in manufacturing.

35.1.44. "Operating parameter value" means a minimum or maximum value established for a control device or process parameter that, if achieved by itself or in combination with one or more other operating parameter values, determines that an owner or operator has complied with an applicable emission limitation.

35.1.45. "Organic solvent" means a liquid containing VOC that is used for dissolving or dispersing constituents in a coating, adjusting the viscosity of a coating, cleaning, or washoff. When used in a coating, the organic solvent evaporates during drying and does not become a part of the dried film.

35.1.46. "Overall control efficiency" means the efficiency of a control system, calculated as the product of the capture and control device efficiencies, expressed as a percentage.

35.1.47. "Permanent total enclosure" means a permanently installed enclosure that completely surrounds a source of emissions such that all emissions are captured and contained for discharge through a control device. The enclosure must meet applicable EPA criteria.

35.1.48. "Person" means an individual, trust, firm, joint stock company, corporation (including a quasi-governmental corporation), partnership, association, syndicate, municipality, municipal or state agency, fire district, club, non-profit agency or any subdivision, commission, department, bureau, agency or department of state or federal government (including quasi-governmental corporation) or of any interstate body.

35.1.49. "Pigmented coating" means an opaque coating which contains binders and colored pigments and which is formulated to hide the wood surface, either as an undercoat or topcoat.

35.1.50. "Potential to emit" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of the design if the limitation or the effect it would have on emissions is specified in a federally enforceable document.

35.1.51. "Reasonably Available Control Technology" and "RACT" means the lowest emission limitation that a particular coating line is capable of meeting by using measures that are reasonably available in terms of technological and economic feasibility. Such measures may include either control system(s) or coating reformulation(s) or both.

35.1.52. "Recycled onsite" means the reuse of an organic solvent at the facility in a process other than cleaning or washoff.

35.1.53. "Sealer" means a finishing material used to seal the pores or grains of a wood substrate before additional coats of finishing material are applied. Washcoats, which are used in some finishing systems to optimize aesthetics, are not sealers.

35.1.54. "Shutdown" means the cessation of operation of wood products manufacturing operations for any purpose.

35.1.55. "Solvent" means a liquid used in a coating for dissolving or dispersing constituents in a coating, adjusting the viscosity of a coating, cleaning, or washoff. When used in a coating, it evaporates during drying and does not become a part of the dried film.

35.1.56. "Stain" means any color coat having a solids content by weight of not more than 8.0 percent that is applied in single or multiple coats directly to the substrate. Stains include, but are not limited to, nongrain raising stains, equalizer stains, prestains, sap stains, body stains, no-wipe stains, penetrating stains, and toners.

35.1.57. "Startup" means the setting in operation of wood products manufacturing operations for any purpose.

35.1.58. "Strippable booth coating" means a coating that: (1) is applied

to a booth wall to provide a protective film to receive overspray during finishing operations; (2) is subsequently peeled off and disposed; and (3) by achieving (1) and (2), reduces or eliminates the need to use organic solvents to clean booth walls.

35.1.59. "Substrate" means the surface onto which coatings are applied or into which coatings are impregnated.

35.1.60. "Thinner" means a volatile liquid that is used to dilute coatings to reduce viscosity, color strength, and solids, or to modify drying conditions.

35.1.61. "Toner" means a stain which contains binders and dyes or pigments to add tint to a coated surface or to even the color of an initial application of stain.

35.1.62. "Topcoat" means the last film-building finishing material applied in a finishing system.

35.1.63. "Touch-up and repair" means the application of finishing materials to cover minor finishing imperfections.

35.1.64. "Volatile Hazardous Air Pollutant" and "VHAP" means any of the substances listed in Table 1.

35.1.65. "Volatile organic compound" and "VOC" means any organic compound which participates in atmospheric photochemical reactions. This includes any organic compound other than the following compounds:

(a) acetone
(b) CFC-11 (trichlorofluoromethane)
(c) CFC-12 (dichlorodifluoromethane)
(d) CFC-113 (1,1,1-trichloro 2,2,2-trifluoroethane)
(e) CFC-114 (1,2-dichloro 1,1,2,2-tetrafluoroethane)
(f) CFC-115 (chloropentafluoroethane)
(g) ethane
(h) HCFC-22 (chlorodifluoromethane)
(i) HCFC-123 (1,1,1-trifluoro 2,2-dichloroethane)
(j) HCFC-124 (2-chloro 1,1,1,2-tetrafluoroethane)
(k) HCFC-141b (1,1-dichloro 1-fluoroethane)
(l) HCFC-142b (1-chloro 1,1-difluoroethane)
(m) HFC-23 (trifluoromethane)
(n) HFC-125 (pentafluoroethane)

(o) HFC-134 (1,1,2,2-tetrafluoroethane)
(p) HFC-134a (1,1,1,2-tetrafluoroethane)
(q) HFC-143a (1,1,1-trifluoroethane)
(r) HFC-152a (1,1-difluoroethane)
(s) methane
(t) methyl chloroform (1,1,1-trichloroethane)
(u) methylene chloride (dichloromethane)
(v) parachlorobenzotrifluoride (PCBTF)
(w) cyclic, branched, or linear completely methylated siloxanes
(x) The perfluorocarbon compounds which fall into these classes:

(1) Cyclic, branched, or linear, completely fluorinated alkanes;
(2) Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations;
(3) Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and
(4) Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

These compounds have been determined to have negligible photochemical reactivity. For purposes of determining compliance with emission limitations, VOC will be measured by the approved test methods. Where such a method also inadvertently measures compounds with negligible photochemical reactivity, as defined above, an owner or operator may exclude these negligible photochemical reactive compounds when determining compliance with an emissions standard.

35.1.66. "Washcoat" means a transparent special purpose coating having a solids content by weight of 12.0 percent or less. Washcoats are applied over initial stains to protect and control uniformity of color, to stiffen the wood fibers, to prepare the wood surface for sanding, and to partially seal the wood from subsequent staining operations.

35.1.67. "Washoff operations" means those operations in which organic solvent is used to remove coating from a substrate.

35.1.68. "Wood products facility" means a facility which is engaged in

coating the surface of products manufactured of wood or wood products, including, but not limited to, particle board, reed, rattan and wicker. Wood product coating does not include coating of flat wood panels, as defined in Air Pollution Control Regulation No. 19.

35.1.69. "Wood products manufacturing operations" means the finishing, gluing, cleaning and washoff operations conducted at a wood products facility.

35.2 Applicability

35.2.1 The provisions of this regulation apply to any wood products facility which has the potential to emit 25 tons per year or more of volatile organic compounds (VOC) from wood products manufacturing operations or which is located at a major source of Hazardous Air Pollutants (HAP).

35.2.2 The owner or operator of a wood products facility which has emissions below the applicability thresholds specified in Subsection 35.2.1 but above 15 pounds of VOC in any day shall comply with the recordkeeping and reporting requirements in Paragraphs (a) and (c) of Subsection 35.7.1 but the facility shall not be subject to any other provisions of this regulation. If the facility becomes subject to the regulation at a future date due to an increase in emissions of VOC or VHAP, the facility shall be subject to applicable requirements in this regulation on and after the date that the applicability thresholds are reached or the date that the applicable requirement becomes effective, whichever is later.

35.2.3

35.2.4 The owner or operator of a facility which is a major source of Hazardous Air Pollutants (HAP) but which has not emitted more than 10 tons of any one HAP or more than 25 tons of any combination of HAP, including emissions from source categories other than wood products, in any 12 month period since December 1994 may apply to the Director for an exemption from the VHAP emissions limitations in Subsections 35.3.2, 35.3.3, 35.4.2 and 35.4.3 of this regulation. Exemption will be given in the form of an enforceable document, and will include the following conditions:

(a) Average monthly emissions from the facility in any

consecutive twelve month period shall not exceed 1,666 pounds of any one HAP or 4,166 pounds of any combination of HAP; and

(b) The following records shall be maintained at the facility for a period of five years and made available to the Division or the EPA upon request:

(1) The name, identification number, and amount of each finishing, gluing and washoff material used each month at the facility; and

(2) Certified Product Data Sheets showing the VOC and VHAP content of each finishing, gluing, and washoff material used at the facility; and

(3) The type and amount of solvent used as thinners and in cleaning operations each month at the facility;

(4) The average monthly emissions of each HAP from the facility, calculated monthly for the previous twelve month period.

(c) If the limit in Paragraph 35.2.4.(a) is exceeded, applicable VHAP emission limitations specified in Sections 35.3 and 35.4 shall immediately apply.

35.3 Emission Limitations for Finishing Operations

35.3.1 VOC Emission Limitations for Finishing Operations

(a) On and after March 7, 1996, the owner or operator of a facility subject to this regulation which has the potential to emit greater than or equal to 25 tons per year of volatile organic compounds (VOC) shall limit VOC emissions from wood products finishing operations by:

(1) Using finishing materials which comply with the emissions limitations in pounds of VOC per gallon of coating minus water and exempt compounds listed in Table 2; or

(2) Using a control system that achieves the emissions limitations in pounds of VOC per

pound of solids listed in Table 2; or

(3) Using finishing materials with a weighted average VOC content, within a particular category of coatings as identified in Table 2, which conforms with the provisions specified in Subsection 35.6.2(a); or

(4) Using a combination of the methods presented in Paragraphs 35.3.1(a)(1), 35.3.1(a)(2), and 35.3.1(a)(3) which is approved by the Division.

Table 2. Emissions Limitations for Finishing Materials

COATING CATEGORY	lbs VOC/ gal coating minus water and exempt compounds	lbs VOC/ lb solids
clear topcoats containing HOC	4.6	1.2
clear topcoats not containing HOC	5.7	2.5
fillers	4.2	1.0
high-solids stains	5.8	2.7
low-solids stains, toners and washcoats containing HOC	4.0	0.9
low-solids stains, toners and washcoats not containing HOC	6.7	7.5
inks	4.2	1.0
multi-colored coatings	5.7	2.5
pigmented coatings	5.0	1.6
sealers containing HOC	4.6	1.2
sealers not containing HOC	5.7	2.5

(b) In addition to complying with the limitations in Table 2, on and after March 7, 1998, the owner or operator of a facility subject to this regulation which has the potential to emit greater than or equal to 25 tons per year of VOC shall:

(1) Use topcoats containing no more than 1.8 lbs VOC/lb solids, as applied, and sealers containing no more than 1.9 lbs VOC/lb solids, as applied; or

(2) Use waterborne topcoats with a VOC content no greater than 0.8 lb VOC/lb solids, as applied; or

(3) Use a control system that achieves equivalent reductions in VOC emissions from topcoats and sealers.

(c) A facility subject to the emissions limits in Table 2 may be required, at the discretion of the Division, to undergo a review every two years to determine whether the limitations in Paragraphs (a) and (b) of this subsection represent Reasonably Available Control Technology (RACT) for the finishing operations at that facility at that time. Facilities shall comply with emissions limitations determined to be RACT within one year of that determination and shall thereafter operate in compliance with those limitations.

35.3.2 VHAP Emission Limitations for Finishing Operations at Existing Facilities

(a) On and after March 7, 1998, the owner or operator of a facility subject to this regulation which is a major source of HAP and which began operations before December 6, 1994 shall limit VHAP emissions from wood products finishing operations by:

(1) Using stains, washcoats, sealers, topcoats, basecoats, and enamels with VHAP contents no higher than 1.0 lb VHAP/lb solids, as applied; thinners for stains, sealers, and topcoats that contain no more than 10% VHAP by weight; and thinners for washcoats, basecoats and enamels that contain no more than 3% VHAP by weight; or

(2) Using finishing materials with a weighted average VHAP content of no greater than 1.0 lb VHAP/lb solids, as applied, calculated using the procedures in Subsection 35.6.2(b), and thinners with VHAP contents as specified in Paragraph 35.3.2(a)(1); or

(3) Using a control system that achieves a reduction in emissions equivalent to that which would be achieved by complying with the requirements of Paragraph (1) or (2) of this subsection,

calculated according to the procedures in Subsection 35.6.3(c) of this regulation; or

(4) Using a combination of the methods presented in Paragraphs (1) and (3) of this subsection which is approved by the Division.

(b) The formaldehyde content of a finishing material shall be calculated as the amount of free formaldehyde present in the finishing material when it is applied.

(c) The styrene content of a finishing material shall be based on an estimate of unreacted styrene, which shall be calculated by multiplying the amount of styrene monomer in the finishing material when it is applied by a factor of 0.16.

35.3.3 VHAP Emission Limitations for Finishing Operations at New Facilities

(a) On and after March 7, 1996, the owner or operator of a facility subject to this regulation which is a major source of HAP and began operation on or after December 6, 1994 shall limit VHAP emissions from wood products finishing operations by:

(1) Using stains with VHAP contents no greater than 1.0 lb VHAP/lb solids, as applied; washcoats, sealers, topcoats, basecoats, and enamels with VHAP contents no greater than 0.8 lb VHAP/lb solids, as applied; thinners for stains, sealers, and topcoats that contain no more than 10% VHAP by weight; and thinners for washcoats, basecoats and enamels that contain no more than 3% VHAP by weight; or

(2) Using finishing materials with a weighted average VHAP content of no greater than 0.8 lb VHAP/lb solids, as applied, calculated using the procedures in Subsection 35.6.2(b), and thinners with VHAP contents as specified in Paragraph 35.3.3(a)(1); or

(3) Using a control system that achieves a reduction in emissions equivalent to that which would be

achieved by complying with the requirements of Paragraph (1) or (2) of this subsection, calculated according to the procedures in provisions in Subsection 35.6.3(c) of this regulation; or

(4) Using a combination of the methods presented in Paragraphs (1) and (3) of this subsection which is approved by the Division.

(b) The formaldehyde content of a finishing material shall be calculated as the amount of free formaldehyde present in the finishing material when it is applied.

(c) The styrene content of a finishing material shall be based on an estimate of unreacted styrene, which shall be calculated by multiplying the amount of styrene monomer in the finishing material when it is applied by a factor of 0.16.

35.4 Emission Limitations for Cleaning and Gluing Operations

35.4.1 VOC Emission Limitations for Cleaning Operations

On and after March 7, 1996, any strippable booth coating used at a facility subject to this regulation must contain no more than 0.8 lb VOC/lb solids, as applied.

35.4.2 VHAP Emission Limitations for Existing Gluing Operations

On and after March 7, 1996, the owner or operator of a facility subject to this regulation which is a major source of HAP and which began operation before December 6, 1994 shall limit VHAP emissions from contact adhesives used in gluing operations as follows:

(a) For foam adhesives used in products that meet the upholstered seating flammability requirements of California Technical Bulletin 116, 117, or 133, the Business and Institutional Furniture Manufacturers Association's (BIFMA's) X5.7, UFAC flammability testing, or any similar requirements from local, State, or Federal fire regulatory agencies, the VHAP content of the adhesive shall not exceed 1.8 lb VHAP/lb solids, as applied;

(b) For all other contact adhesives, including foam adhesives used in products that do not meet the standards presented in Paragraph (a) of this subsection, the VHAP content of the adhesive shall not exceed 1.0 lb VHAP/lb solids, as applied; or

(c) By using a control system that will achieve a reduction in VHAP emissions equivalent to that which would be achieved by complying with the requirements of Paragraph (b) of this subsection, as calculated using the procedures in Subsection 35.6.3(d) of this regulation.

35.4.3 VHAP Emission Limitations for New Gluing Operations

On and after March 7, 1996, the owner or operator of a facility subject to this regulation which is a major source of HAP and which began operation on or after December 6, 1994 shall not use contact adhesives which have VHAP contents higher than 0.2 lb VHAP/lb solids, as applied or shall use a control system that achieves an equivalent reduction in emissions of VHAP, as calculated using the procedures in Subsection 35.6.3(d).

35.5 Work Practice Standards

The owner or operator of a facility subject to this regulation shall implement the following work practice standards by March 7, 1996, except where another date is specified.

35.5.1 Work Practice Implementation Plan

(a) The owner or operator of a facility subject to this regulation shall prepare and maintain a written work practice implementation plan that defines work practices for each wood products manufacturing operation and addresses each of the topics specified in Subsections 35.5.2 through 35.5.10.

(b) The work practice implementation plan shall be developed by May 6, 1996 and shall be subject to the approval of the Division.

(c) The owner or operator of the facility shall comply with each provision of the work practice implementation plan.

(d) The work practice implementation plan shall be available for inspection by the EPA or the Division upon request and shall be modified by the facility if found to be inadequate.

35.5.2 Operator Training Course

(a) Each owner or operator of a facility subject to this regulation shall train all new and existing personnel, including contract personnel, who are involved in finishing, gluing, cleaning, or washoff operations, use of manufacturing equipment, or implementation of the requirements of this regulation.

(b) All personnel shall be trained by November 6, 1996, or upon hiring, whichever is later. All personnel shall be given refresher training annually.

(c) Initial and refresher trainings shall include, at a minimum, the following topics:

(1) Appropriate application techniques;

(2) Appropriate cleaning and washoff procedures;

(3) Appropriate equipment setup and adjustment to minimize finishing material usage and overspray; and

(4) Appropriate management of cleanup wastes.

(d) The facility shall maintain records of the training program. Records shall include, at a minimum, the following:

(1) A list of all current personnel by name and job description who are required to be trained and a record of the date that each employee was trained;

(2) An outline of the subjects covered in the initial and refresher training for each position, or group of personnel;

(3) Lesson plans for courses to be given at the initial and the annual refresher training that include, at a minimum, the topics specified in Paragraph (c) of this subsection; and

(4) A description of the methods to be used to demonstrate successful completion of initial and refresher training.

35.5.3 Equipment Operation, Maintenance, Inspection and Repair

(a) Equipment Leak Inspection and Repair

(1) After March 6, 1996, all equipment used to transfer or apply finishing materials, adhesives, or organic solvents shall be visually inspected for leaks at least once per month.

(2) A first attempt at repair shall be made no later than 3 calendar days after a leak is detected and final repairs shall be made within 10 calendar days, unless the leaking equipment is to be replaced by a new purchase, in which case repairs shall be completed within 3 months.

(3) Each owner or operator of a source subject to this regulation shall prepare and maintain a written leak inspection and maintenance plan that includes:

(i) A schedule for conducting visual inspections required in Paragraph (a) of this subsection; and

(ii) A log documenting the date and results of each inspection and any repairs that are made.

(b) Operation and Maintenance Requirements

(1) At all times, including periods of startup, shutdown, and malfunction, owners or operators shall operate and maintain any equipment associated with wood products manufacturing operations, including associated air pollution

control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

(2) Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required in Paragraph (b)(4) of this subsection.

(3) The Division will determine whether acceptable operation and maintenance procedures are being used, based on information which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including the startup, shutdown, and malfunction plan required in Paragraph (b)(4) of this subsection), review of operation and maintenance records, and inspection of the facility.

(4) The owner or operator of a facility subject to this regulation shall develop and implement a written startup, shutdown, and malfunction plan that describes, in detail, procedures for operating and maintaining equipment associated with wood products manufacturing operations during periods of startup, shutdown, and malfunction and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with this regulation. The facility's standard operating procedures (SOP) manual, an Occupational Safety and Health Administration (OSHA) or another plan can be used to fulfill this requirement, provided the plan meets all the requirements of this paragraph. Startup, shutdown, and malfunction plans shall be maintained at the facility and made available to the Division or the EPA for review upon request and shall be revised if determined to be unacceptable.

(5) During periods of startup, shutdown, and malfunction, the owner or operator of a facility

subject to this regulation shall operate and maintain equipment associated with wood products manufacturing operations (including associated air pollution control equipment) in accordance with the procedures specified in the startup, shutdown, and malfunction plan developed according to the provisions of Paragraph (b)(4) of this subsection.

(6) The owner or operator of a facility subject to this regulation shall keep records of action taken during startups, shutdowns, and malfunctions, including actions taken to correct malfunctions and shall certify, in the semi-annual reports required in Subsection 35.7.7, that all such actions were consistent with the procedures specified in the facility's startup, shutdown and malfunction plan developed under Paragraph (b)(4) of this subsection.

(7) If actions taken by the owner or operator during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) are not consistent with the procedures specified in the facility's startup, shutdown, and malfunction plan, the owner or operator shall record the actions taken and report such actions to the Division within 2 working days after beginning actions inconsistent with the plan, followed by a letter within 7 working days after the end of the event.

(8) If a malfunction occurs that was not adequately addressed in the startup, shutdown, and malfunction plan, the owner or operator shall revise the plan within 45 days after the event to include detailed procedures for operating and maintaining the source during similar malfunction events and a program of corrective action for similar malfunctions of process or air pollution control equipment.

35.5.4 Cleaning and Washoff Solvent Requirements

(a) The owner or operator of a facility subject to this regulation shall account for organic solvent use in cleaning and washoff operations by recording the following information:

(1) The quantity and types of organic solvent used in washoff and cleaning operations each month;

(2) The number of pieces washed off, and the reason for the washoff; and

(3) The quantity of spent organic solvent generated from each washoff and cleaning activity each month, and whether it is recycled onsite or disposed offsite.

(b) Facilities subject to this regulation shall not use cleaning or washoff solvents that contain any of the pollutants listed in Table 3 in concentrations greater than 0.1%.

35.5.5 Spray Booth Cleaning

Facilities subject to this regulation shall not use compounds containing more than 8.0 percent by weight of VOC for cleaning spray booth components other than conveyors, continuous coaters and their enclosures, or metal filters, unless the spray booth is being refurbished. If the spray booth is being refurbished, that is, the spray booth coating or other material used to cover the booth is being replaced, the facility shall use no more than 1.0 gallon of organic solvent per booth to prepare the booth prior to applying the booth coating.

35.5.6 Storage Requirements

All finishing, gluing, cleaning, and washoff materials shall be stored in containers that are closed at all times except when material is being added or removed.

35.5.7 Application Equipment Requirements

Conventional air spray guns shall not be used to apply finishing materials, except in the following situations:

(a) When applying finishing materials before March 6, 1998 at a facility which is not a major source of HAP or which began operation prior to December 6, 1994;

(b) When applying finishing materials that have a VOC content no greater than 1.0 lb VOC/lb solids, as applied;

(c) Touch-up or repair that occurs after the completion of a finishing operation;

(d) Touch-up or repair that occurs after the stain and before any other type of finishing material is applied, provided that the touch-up finishing materials are applied from a container that has a volume of no more than 2.0 gallons;

(e) If the spray gun is aimed and triggered automatically, not manually;

(f) If emissions from the finishing application station are directed to a control device;

(g) For application of a finishing material if the total usage of that finishing material is no more than 5.0 percent of the total gallons of all finishing materials used at that facility during that semi-annual reporting period, as specified in Subsection 35.7.7(a).; or

(h) The application of stain on a part for which it is technically or economically infeasible to use any other spray application technology. The facility must demonstrate technical or economic infeasibility by submitting documentation to the Division that the following criteria, either independently or in combination, are met:

(1) The production speed is too high or the part shape is too complex for one operator to coat the part and the application station is not large enough to accommodate an additional operator; or

(2) The excessively large vertical spray area of the part makes it difficult to avoid sagging or runs in the stain.

35.5.8 Line Cleaning

All organic solvent used for line cleaning shall be pumped or drained into a container that is closed at all times except when material is being added or removed.

35.5.9 Gun Cleaning

All organic solvent used to clean spray guns shall be collected in a container that is closed at all times except when material is being added or removed.

35.5.10 Washoff operations

Emissions from washoff operations shall be controlled by:

(a) Using tanks for washoff that are closed at all times except when material is being added or removed; and

(b) Minimizing dripping by tilting or rotating the part to drain as much organic solvent as possible.

35.5.11 Formulation Assessment Plan

Each owner or operator of a facility that is subject to this regulation and that is a major source of Hazardous Air Pollutants shall prepare and maintain a formulation assessment plan that:

(a) Lists all VHAP from Table 1 that are being used in finishing operations at the facility.

(b) Establishes a baseline level of usage by the facility for each VHAP as follows:

(1) The baseline usage level shall be the annual usage from the calendar year 1994 for each VHAP;

(2) For formaldehyde, the baseline level of usage shall be based on the amount of free

formaldehyde present in the finishing material when it is applied;

(3) For styrene, the baseline level of usage shall be an estimate of unreacted styrene, which shall be calculated by multiplying the amount of styrene monomer in the finishing material when it is applied by a factor of 0.16; and

(4) Facilities using a control device to reduce emissions may adjust their baseline usage based on the overall control efficiency of the control system, calculated using Equation 5 in Paragraph 35.6.3(c).

(5) The baseline levels for a VHAP that was not used in 1994 shall be established as 20% of the Reportable Quantity for that substance specified in Table III of Regulation No. 22.

(c) Tracks the annual usage of each VHAP used by the facility.

(d) If, beginning with the calendar year 1998, the usage of a VHAP in any year exceeds its baseline level, then the owner or operator of the facility shall provide a written notification to the Division by 31 January of the following year that specifies the amount of the increase and explains the reasons for the increase. The Division will determine whether the increase would cause an exceedance of the Acceptable Ambient Levels specified in Air Pollution Control Regulation No. 22. If Regulation No. 22 limits are exceeded, the Division will develop a timetable for the facility to achieve compliance and a schedule for submitting notification of progress.

35.6 Compliance Procedures and Monitoring Requirements

35.6.1 Compliance Using Compliant Coatings

Compliance with the emissions limitations in Sections 35.3 and 35.4 of this regulation through the use of compliant coatings shall be demonstrated by the following methods:

(a) Maintaining Certified Product Data Sheets (CPDS) documenting that the VOC and/or VHAP content of each topcoat, filler, stain, toner, ink, multi-colored coating, pigmented coating, sealer, washcoat, enamel, basecoat, thinner, adhesive and strippable booth coating meets the applicable emissions limitations in Sections 35.3 and 35.4 in lb VOC/gallon of coating or lb VHAP/lb of solids; and

(b) Maintaining formulation data and related calculations showing that the VOC and VHAP content of each topcoat, filler, stain, toner, ink, multi-colored coating, sealer, washcoat, enamel, basecoat, adhesive and strippable booth coating diluted onsite, as applied, meets the applicable emissions limitations in Sections 35.3 and 35.4 in lb VOC/gallon of coating or lb VHAP/lb of solids; and

(c) For facilities with continuous coaters, using one of the following procedures:

(1) Calculating the VOC and VHAP content, as applicable, of the finishing material in the reservoir from information on the CPDS and records of materials added to the reservoir; or

(2) Monitoring the viscosity of the finishing material in the reservoir with a viscosity meter or testing the viscosity of the initial finishing material and retesting the material in the reservoir each time solvent is added. If this option is chosen, the facility shall maintain data that demonstrates the correlation between the viscosity of the finishing material and the VOC and VHAP content, as applicable, of the finishing material; and

(d) The Division or EPA will determine compliance either by reviewing the records specified in Paragraphs (a), (b) and (c) of this subsection or by conducting a performance test according to the specifications in Subsections 35.8.1 and 35.8.2. If the VOC or VHAP content of a coating determined by a performance test using the procedures specified in Subsections 35.8.1 and 35.8.2 is greater than that indicated on a CPDS or

by the facility's formulation or viscosity data, the performance test results shall govern.

35.6.2 Compliance Using Averaging

(a) To demonstrate compliance with the VOC emission limitations in Subsection 35.3.1 for a particular coating category through the use of averaging, the owner or operator of a facility shall, each week:

(1) Calculate the average VOC content for all coatings in that category used at the facility using Equation 1:

$$E_{VOC} = \left(\sum_{i=1}^{n} V_i C_i \right) / \sum_{i=1}^{n} V_i \qquad \text{Equation 1}$$

Where:

E_{VOC} = the average VOC content of coatings in a particular coating category, in lb VOC/gal coating, as applied:

C = the VOC content of a coating in the coating category, in lb VOC/gal coating minus water and exempt compounds, as applied;

i = subscript denoting an individual coating;

V = the volume of coating, in gallons, as applied, of a particular coating in the coating category used during the weekly average period;

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(2) Demonstrate that the value calculated for E_{VOC} is no greater than 0.9 times the emission limitation, in lbs VOC/gallon coating minus water and exempt compounds, as applied, for that coating category, as listed in Table 2.

(b) To demonstrate compliance with the VHAP emission limitations in Subsections 35.3.2 and 35.3.3 through the use of averaging, the owner or operator of a facility shall, each month:

(1) Calculate the average VHAP content for all finishing materials used at the facility using Equation 2:

$$E_{VHAP} = \left(\sum_{i=1}^{n} M_i C_i + \sum_{i=1}^{n} S_i W_i \right) / \sum_{i=1}^{n} M_i \qquad \text{Equation 2}$$

Where: E_{VHAP} = the average VHAP content of finishing materials, in lb VHAP/lb solids:

C = the VHAP content of a coating, in Lb VHAP/lb solids, as applied;

i = subscript denoting an individual coating;

M = the mass of solids, in pounds, in a particular finishing material used during the monthly average period;

S = the VHAP content of a solvent, expressed as a weight fraction, added to finishing materials; and

W = the amount of solvent, in pounds, added to finishing materials during the monthly averaging period.

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(2) Demonstrate that the value calculated for E_{VHAP} is no greater than 1.0 if the facility is complying with Subsection 35.3.2 and is no greater than 0.8 if the facility is complying with Subsection 35.3.3.

35.6.3 Initial Compliance Using Control Equipment

(a) The owner or operator of a facility which uses control equipment to comply with the VOC emission limitations in Table 2 or the VHAP limitations in Subsections 35.3.3 and/or 35.4.3 shall conduct an initial performance test to measure the capture and control efficiency of the control system using the procedures specified in Subsection 35.8.3 by June 4, 1996. Initial performance tests for control equipment which is being used to comply with the VHAP emission limitations in Subsections 35.3.2 and/or 35.4.2 or the VOC emissions limitations for sealers and clear topcoats in Paragraph 35.3.1(b) shall be conducted by September 8, 1998.

(b) Initial compliance with VOC emission limitations for finishing materials through the use of a control system shall be determined as follows:

(1) Calculate the overall control efficiency needed (R_n) for each finishing material which will be controlled by the control equipment using the following equation:

$$R_n = [(C - EL)/C](100) \qquad \text{Equation 3}$$

Where:

R_n = the overall efficiency of the control system needed, expressed as a percentage.

C = the VOC content of a coating, in lb VOC/lb solids, as applied;

EL = the emission limitation required for the coating, from Table 2, in lb VOC/lb solids.

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(2) Document that the value of C used in Equation 3 was calculated from the VOC and solids content of the as-applied finishing material.

(3) Demonstrate, for all applicable coatings, that the value of R_n calculated using Equation 3 is less

than or equal to the actual overall control efficiency (R_a) calculated by substituting the capture efficiency (N) and control efficiency (F) of the control system measured in the initial performance test into Equation 4.

$$R_a = (F \times N)(100) \qquad \text{Equation 4}$$

(c) Initial compliance with VHAP emission limitations for finishing materials through the use of a control system shall be determined as follows:

(1) Calculate the overall control efficiency needed, R_n, so that the value of E_{ac} in Equation 5 is no greater than 1.0 if complying with Subsection 35.3.2 and so that the value of E_{ac} in Equation 5 is no greater than 0.8 if complying with Subsection 35.3.3;

$$R_n = (100)(E_{bc} - E_{ac})/E_{bc} \qquad \text{Equation 5}$$

Where :

R_n = the overall efficiency of the control system needed, expressed as a percentage;

E_{ac} = emissions from an emission point or a set of emission points after control equipment is in operation, in lb VHAP/lb solids; and

E_{bc} = emission from an emission point or set of emission points before controls, calculated as E_{VHAP} in Equation 2.

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(2) Demonstrate that the value of R_n calculated using Equation 5 is less than or equal to the

actual overall control efficiency (R_a) calculated using the capture efficiency (N) and control efficiency (F) of the control system measured in the initial performance test and Equation 4.

(d) Initial compliance with VHAP emission limitations for gluing materials through the use of a control system shall be determined as follows:

(1) Calculate the overall control efficiency of the control system needed (R_n) so that the value of G_{ac} in Equation 6 is no greater than 1.0 if complying with Subsection 35.4.2 and 0.2 if complying with Subsection 35.4.3;

$$R_n = (100)(G_{bc} - G_{ac})/G_{bc}) \qquad \text{Equation 6}$$

Where :

R_n = the overall efficiency of the control system needed, expressed as a percentage;

G_{ac} = emissions from the gluing operation after control equipment, in lb VHAP/lb solids; and

G_{bc} = emission from the gluing operation before controls, in lb VHAP/lb solids.

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(2) Demonstrate that the value of Rn calculated using Equation 6 is less than or equal to the actual overall control efficiency (R_a) calculated using the capture efficiency (N) and control efficiency (F) of the control system measured in the initial performance test and Equation 4.

35.6.4 Continuous Compliance Using Control Equipment

(a) The owners or operator of a facility that is complying with the emission limitations in this regulation through the use of a control system shall demonstrate continuous compliance by installing, calibrating,

maintaining, and operating appropriate monitoring equipment according to manufacturers' specifications.

(b) The monitoring equipment installed pursuant to Paragraph (a) of this subsection shall measure operating parameters which indicate ongoing compliance with the control efficiency requirements in this regulation.

(c) Where a thermal incinerator is used, the operating parameter to be monitored shall be minimum combustion temperature, and a temperature monitoring device equipped with a continuous recorder shall be installed in the firebox or in the ductwork immediately downstream of the firebox in a position before any substantial heat exchange occurs.

(d) Where a catalytic incinerator equipped with a fixed catalyst bed is used, the operating parameter to be monitored shall be the minimum gas temperature upstream and downstream of the catalyst bed and temperature monitoring devices equipped with continuous recorders shall be installed in the gas stream immediately before and after the catalyst bed.

(e) Where a catalytic incinerator equipped with a fluidized catalyst bed is used, the operating parameters to be monitored shall be the minimum gas temperature upstream of the catalyst bed and the pressure drop across the catalyst bed, and temperature monitoring devices equipped with continuous recorders shall be installed in the gas stream immediately before the bed. In addition, a pressure monitoring device shall be installed to determine the pressure drop across the catalyst bed. A constant pressure drop, as measured monthly at a constant flow rate, shall be maintained.

(f) Where a carbon adsorber is used, the operating parameters to be monitored shall be either the total regeneration mass stream flow for each regeneration cycle and the carbon bed temperature after each regeneration, or the concentration level of organic compounds exiting the adsorber, unless the owner or operator requests and receives approval from the Division and the EPA to establish other operating

parameters. One of the following devices is required to monitor these parameters:

(1) An integrating regeneration stream flow monitoring device having an accuracy of ±10 percent, capable of recording the total regeneration stream mass flow for each regeneration cycle; and a carbon bed temperature monitoring device having an accuracy of ±1 percent of the temperature being monitored expressed in degrees Celsius or ±0.5° C, whichever is greater, capable of recording the carbon bed temperature after each regeneration and within 15 minutes of completing any cooling cycle;

(2) An organic monitoring device, equipped with a continuous recorder, to indicate the concentration level of organic compounds exiting the carbon adsorber; or

(3) Another monitoring device that has been approved by the Division and the EPA.

(g) A facility using a control device not listed in this section to comply with this regulation shall submit to the Division a description of the device, test data verifying the performance of the device, and appropriate operating parameter values that will be monitored to demonstrate continuous compliance with the standard. Compliance using this device is subject to the approval of the Division and the EPA.

(h) Operating parameter values indicating compliance shall be calculated as the arithmetic average of the maximum or minimum value of those parameters, as appropriate, measured during the three test runs of the initial performance test, provided that the initial performance test demonstrated compliance.

(i) The capture or control device shall be operated so that the average of all values for a monitored parameter recorded during each operating day is in compliance with the operating parameter value calculated according to the procedures in Paragraph (h) of this subsection.

35.7 Recordkeeping and Reporting

35.7.1 The owner or operator of a facility subject to this regulation shall maintain the following records for a period of five years:

(a) A certified product data sheet (CPDS) for each finishing material, thinner, adhesive, and strippable booth coating subject to the emission limitations in this regulation;

(b) As applicable, the VOC content in lb VOC/gallon of coating, as applied and the VHAP content, in lb VHAP/lb of solids, as applied, of each coating subject to the emission limitations in this regulation, and copies of calculations documenting how the as-applied values were determined. The VOC content of strippable booth coatings shall be expressed in units of lb VOC/lb solids, as applied.

(c) The amount and type of each coating and thinner used at the facility each month.

(d) If viscosity measurements are used to track VOC and/or VHAP concentrations:

(1) Records of dates and amounts of solvent and finishing material added to the continuous coater reservoir;

(2) Records of dates and results of viscosity measurements; and

(3) Data demonstrating that viscosity is an appropriate parameter for demonstrating compliance.

35.7.2 The owner or operator of a facility using weekly averaging to comply with the VOC emissions limitations in Subsection 35.3.1 or monthly averaging to comply with the VHAP emissions limitations in Subsection 35.3.2 or 35.2.3 shall maintain the calculations of E_{VOC} and E_{VHAP} required in Subsection 35.6.2 for a period of 5 years.

35.7.3 The owner or operator of a source using control equipment to comply with the emissions limitations in this regulation shall maintain the following records for a period of five years:

(a) Copies of calculations of E_{VHAP} from Equation 2 and R_n from Equation 3, 5 and 6, as applicable;

(b) Records of the daily average value of each continuously monitored operating parameter for each operating day. If all recorded values for a monitored parameter during an operating day are within the range established during the initial performance test, the owner or operator may record that all values were within the range rather than calculating and recording an average for that day; and

(c) Records of the pressure drop across the catalyst bed for facilities complying with the emission limitations using a catalytic incinerator with a fluidized catalyst bed.

35.7.4 The owner or operator of a facility subject to this regulation shall maintain onsite the work practice implementation plan and for five years shall maintain onsite all records associated with fulfilling the requirements of that plan, as specified in Section 35.5, including, but not limited to:

(a) Records demonstrating that the operator training program is in place;

(b) Records maintained in accordance with the equipment leak inspection and maintenance plan and startup, shutdown, and malfunction plan;

(c) Records associated with the cleaning solvent accounting system;

(d) Records associated with the limitation on the use of conventional air spray guns showing total finishing material usage and the percentage of finishing materials applied with conventional air spray guns for each reporting period;

(e) Records associated with the formulation assessment plan;

(f) Records showing the VOC content of compounds used for cleaning booth components, except for solvent used to clean conveyors, continuous coaters and their enclosures, and/or metal filters;

(g) A copy of logs and other documentation developed to demonstrate that the provisions of the work practice implementation plan are followed; and

(h) A copy of the compliance certifications, and periodic reports submitted in accordance with the requirements of this regulation.

35.7.5 Initial Notifications

(a) The owner or operator of a facility subject to this regulation which was constructed before December 7, 1995 and which is a major source of HAP shall submit a Initial Notification to the Division by September 2, 1996 or within 30 days of becoming a major source of HAP, whichever is later. Initial Notifications for facilities constructed before December 7, 1995 shall include the following information:

(1) The name and address of the owner or operator;

(2) The address (i.e., physical location) of the facility;

(3) An identification of the relevant standard, or other requirement, that is the basis of the notification and the facility's compliance date;

(4) A brief description of the nature, size, design, and method of operation of the facility, including its operating design capacity and an identification of each point of emission for each HAP, or, if a definitive identification is not yet possible, a preliminary identification of each point of emission for each HAP;

(5) An estimate of the amount of each HAP used and emitted annually from the facility; and

(6) The number of hours per day and days per week that the facility operates.

(b) The owner or operator of a facility subject to this regulation which was constructed or reconstructed on or after December 7, 1995 and which is a major source of HAP shall submit an Initial Notification in conjunction with its construction permit application. A facility constructed or reconstructed on or after December 7, 1995 which subsequently becomes a major source of HAP shall submit an Initial Notification within 30 days of becoming a major source of HAP. Initial Notifications for facilities constructed on or after December 7, 1995 shall include the following information:

(1) The date when construction or reconstruction began or is scheduled to begin;

(2) The anticipated date of startup of the source; and

(3) The information listed in paragraphs (a)(1) through (a)(6) of this subsection.

(c) A facility subject to this regulation which was constructed or reconstructed after December 7, 1995 shall notify the Division of the actual date of startup of the facility by April 6, 1996 or within 15 calendar days after the startup date, whichever is later.

35.7.6 Initial Compliance Certification

(a) The owner or operator of a facility subject to the VHAP emission limitations in this regulation shall submit an Initial Compliance Certification for VHAP to the Division. Initial Compliance Certifications for VHAP for facilities which began operation on or after December 6, 1994 shall be submitted by May 6, 1996 or 60 days after beginning operation, whichever is later. Initial Compliance Certifications for VHAP for facilities which began operation before December 6, 1994 shall be submitted by May 6, 1998. The owner or operator of a facility that, due to an increase in emissions, becomes a major source of HAP after the

effective date of the regulation, shall submit an Initial Compliance Certification to the Division no more than 60 days after becoming a major source of HAP.

(b) The owner or operator of a facility subject to the VOC emission limitations in this regulation shall submit an Initial Compliance Certification for VOC to the Division. Initial Compliance Certifications for VOC shall be submitted by May 6, 1998.

(c) Initial Compliance Certifications shall include the following information:

(1) For a facility that is complying with emission limitations through the use of compliant materials, Initial Compliance Certifications shall state that each topcoat, filler, stain, toner, ink, multi-colored coating, pigmented coating, sealer, washcoat, enamel, basecoat, thinner, adhesive and strippable booth coating is in compliance with applicable emissions limitations in this regulation and identify the method used to determine compliance.

(2) For a facility monitoring viscosity to demonstrate compliance with emission limitations, the initial compliance report shall state that viscosity is an appropriate parameter for demonstrating compliance, that viscosity is being measured in accordance with the specifications in Paragraph 35.6.1(b)(2) and that viscosity measurements demonstrate that the VHAP and VOC content of the material in the coaters is in compliance with applicable emission limitations.

(3) For a facility using weekly averaging to comply with the VOC emission limitations in Subsection 35.3.1 or monthly averaging to comply with the VHAP emission limitations in Subsection 35.3.2 or 35.2.3, the Initial Compliance Certification shall state that E_{VOC} and E_{VHAP}, as calculated using Equation 1 and Equation 2, respectively, are no greater than the

applicable emission limitations specified in Subsection 35.6.2.

(4) For a facility using a control system to comply with the emission limitations in this regulation, the Initial Compliance Certification shall identify each control device installed, including the identification number, permit number, installation date and equipment controlled. In addition, the following information must be submitted no more than 60 days after completing the initial performance test of the control system:

(i) The results of the initial performance test of the control system;

(ii) The overall control efficiency needed (R_n), calculated using Equation 3 for VOC emissions from finishing operations, Equation 5 for VHAP emissions from finishing operations, and Equation 6 for VHAP emissions from gluing operations, as applicable;

(iii) The actual overall control efficiency (R_a) calculated using the results of the initial performance test and Equation 4; and

(iv) A plan for monitoring operating parameters which identifies the operating parameter values which indicate ongoing compliance, calculated as specified in Paragraph 35.6.4(h), discusses why those parameters are appropriate indicators of compliance, and specifies the frequency that those parameters will be monitored.

(5) Initial Compliance Certifications shall state that a work practice implementation plan has been developed and procedures have been established for implementing the provisions of that plan.

(6) Initial Compliance Certifications shall be signed by a responsible official of the company that owns or operates the facility.

35.7.7 Periodic Reports

The owner or operator of a facility subject to this regulation shall submit periodic reports to the Division according to the following specifications:

(a) Periodic reports shall be submitted semi-annually by 1 February of each year for the reporting period of 1 July through 31 December of the previous year and by 1 September for the reporting period of January 1 through June 30, which include the following:

(1) The amount and type of VOC and VHAP in each coating used at the facility during the reporting period,

(2) A compliance certification, as specified in Paragraphs (b) through (g) of this subsection, and

(3) Documentation of progress made during the reporting period toward reducing the VOC and VHAP content of coatings used at the facility.

(b) If the facility is using compliant coatings to comply with the emission limitations in Sections 35.3 and 35.4 of this regulation, periodic reports shall state that the VOC and VHAP content of each topcoat, filler, stain, toner, ink, multi-colored coating, pigmented coating, sealer, washcoat, enamel, basecoat, thinner, adhesive and strippable booth coating used each day at the facility was in compliance with applicable limitations in those sections throughout the reporting period, or should identify periods of noncompliance and the reasons for noncompliance.

(c) If the facility uses viscosity to monitor compliance, the periodic report shall state that the viscosity of the finishing material in the reservoir was monitored according to the specifications in Paragraph 35.6.1(b)(2) and that those measurements demonstrated

compliance with applicable emission limitations throughout the reporting period, or should identify the days of noncompliance and the reasons for noncompliance.

(d) If the facility is complying with the VOC emissions limitations in Section 35.3 using averaging, the periodic report shall include the results of the VOC averaging calculation (Equation 1) for each week in the reporting period and shall certify that the facility was in compliance with the applicable emission limitations in all weeks during that period, or identify the weeks that these limitations were exceeded and give reasons for those exceedances.

(e) If the facility is complying with the VHAP emissions limitations in Section 35.3 using averaging, the periodic report shall include the results of the VHAP averaging calculation (Equation 2) for each month in the reporting period and shall certify that the facility was in compliance with the applicable emission limitations in all months during that period, or identify the months that these limitations were exceeded and give reasons for those exceedances.

(f) If the facility is complying with the emission limitations in this regulation using a control system, the periodic report shall state that the daily average value of each continuously monitored operating parameter was within the acceptable range on each operating day, or identify the days of noncompliance and the reasons for the noncompliance.

(g) Periodic reports shall include a statement certifying that the work practice implementation plan and startup, shutdown, and malfunction plan were followed throughout the reporting period, or otherwise identify the periods of noncompliance with the work practice standards.

(h) The periodic report shall be signed by a responsible official of the company that owns or operates the facility.

(i) If an exceedance occurs, periodic reports must be submitted quarterly until a request to reduce the reporting frequency has been approved. Submittal frequencies may be reduced to semi-annual provided that the following conditions have been satisfied:

(1) The facility has demonstrated a full year of compliance without an exceedance; and

(2) The owner or operator of the facility continues to comply with the recordkeeping and monitoring requirements specified in this regulation.

35.8 Performance Test Methods

35.8.1 VOC and Solids Content

(a) VOC and solids content, by weight, of coatings shall be demonstrated with EPA Method 24 or an alternative procedure approved by EPA and the Division. Sampling procedures shall follow the guidelines presented in "Standard Procedures for Collection of Coating and Ink Samples for VOC Content Analysis by Reference Method 24 and Reference Method 24A," EPA-340/1-91-010.

(b) The owner or operator of a facility that uses a finishing material that does not release VOC reaction byproducts during the cure; for example, if all VOC is solvent; may request permission to use batch formulation information to demonstrate compliance. If the VOC content of a coating determined by an EPA Method 24 test is greater than that indicated by the facility's formulation data, the EPA Method 24 test shall govern.

35.8.2 VHAP and Solids Content

(a) EPA Method 311 of Part 63, Appendix A, or an alternative method, if approved by EPA and the Division, shall be used in conjunction with formulation data to determine the VHAP content of the liquid coating. Formulation data shall be used to identify VHAP present in the coating, and Method 311 or an approved alternative method shall be used to quantify

the VHAP identified through the formulation data. EPA method 311 shall not be used to quantify VHAP such as styrene and formaldehyde that are emitted during the cure.

(b) EPA Method 24 (40 CFR part 60) shall be used to determine the solids content by weight and the density of coatings for the purpose of showing compliance with VHAP emission limitations.

(c) The owner or operator of a facility that uses a finishing material that does not release VOC or VHAP byproducts during the cure; for example, if all VOC and VHAP present in the coating is solvent; may request permission to use batch formulation information to demonstrate compliance.

(d) If the VOC content of a coating as determined by EPA Method 24/311 test is higher than that indicated by a facility's formulation data, the EPA Method 24/311 test shall govern, unless the facility can demonstrate to the satisfaction of the Division that formulation data are correct.

(e) Sampling procedures shall follow the guidelines presented in "Standard Procedures for Collection of Coating and Ink Samples for VOC Content Analysis by Reference Method 24 and Reference Method 24A," EPA-340/1-91-010.

35.8.3 Control Equipment Efficiency

(a) EPA Method 18, 25, or 25A shall be used to determine the VOC concentration of gaseous air streams. EPA Method 18 shall be used to determine the VHAP concentration of gaseous air streams. The test shall consist of three separate runs, each lasting a minimum of 30 minutes.

(b) EPA Method 1 or 1A shall be used for sample and velocity traverses.

(c) EPA Method 2, 2A, 2C, or 2D shall be used to measure velocity and volumetric flow rates.

(d) EPA Method 3 shall be used to analyze exhaust gases.

(e) EPA Method 4 shall be used to measure the moisture content of stack gas when required.

(f) EPA Methods 2, 2A, 2C, 2D, 3, and 4 shall be performed, as applicable, at least twice during each test run.

(g) VOC and VHAP control systems must be constructed so that volumetric flow rates and VOC and/or total VHAP concentrations, as applicable, can be determined by the test methods specified in Paragraphs (a) through (f) of this subsection, as applicable.

(h) Capture efficiency shall be measured using measures approved by the EPA.

(i) Testing shall be performed while all affected emission points are connected and operating at maximum production rate.

(j) The efficiency (F) of the control device shall be determined using Equation 7:

$$F = \frac{\sum_{i=1}^{n} Q_{bi} C_{bi} - \sum_{j=1}^{p} Q_{aj} C_{aj}}{\sum_{i=1}^{n} Q_{bi} C_{bi}} \qquad \text{Equation 7}$$

Where : F = control device efficiency, expressed as a fraction

C_{bi} = the concentration of VOC or VHAP, as applicable, in gas stream (i) entering the emission control device, in parts per million by volume.

C_{aj} = the concentration of VOC or VHAP, as applicable, in gas stream (j) exiting the emission control device, in parts per million by volume.

Q_{aj} = the volumetric flow rate of gas stream (j) exiting the emission control device, in dry standard cubic meters per hour.

Q_{bi} = the volumetric flow rate of gas stream (i) entering the emission control device, in dry standard cubic meters per hour.

(k) Determine the efficiency (N) of the capture system using Equation 8:

$$N = \frac{\sum_{i=1}^{n} Q_{di}\ C_{di}}{\sum_{i=1}^{n} Q_{di}\ C_{di} + \sum_{k=1}^{p} Q_{fk}\ C_{fk}} \qquad \text{Equation 8}$$

Where : N = the capture system efficiency, expressed as a fraction.

C_{di} = the concentration of VOC or VHAP, as applicable, in gas stream (i) entering the emission control device from the affected emission point(s), in parts per million by volume.

C_{fk} = the concentration of VOC or VHAP, as applicable, in each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected emission point(s), in parts per million by volume.

Q_{di} = the volumetric flow rate of gas stream (i) entering the emission control device from the affected emission

point(s), in dry standard cubic meters per hour.

Q_{fk} = the volumetric flow rate of each uncontrolled gas stream (k) emitted directly to the atmosphere from the affected emission point(s), in dry standard cubic meters per hour.

(l) If all effected emissions points are surrounded by a permanent enclosure that is demonstrated to be total by procedures acceptable to the Division and the EPA, the control device capture efficiency, N, is equal to 1.

TABLE 1. LIST OF VOLATILE HAZARDOUS AIR POLLUTANTS

Chemical name	**CAS No.**
Acetaldehyde	75070
Acetamide	60355
Acetonitrile	75058
Acetophenone	98862
2-Acetylaminofluorine	53963
Acrolein	107028
Acrylamide	79061
Acrylic acid	79107
Acrylonitrile	107131
Allyl chloride	107051
4-Aminobiphenyl	92671
Aniline	62533
o-Anisidine	90040
Benzene	71432
Benzidine	92875
Benzotrichloride	98077
Benzyl chloride	100447
Biphenyl	92524
Bis(2-ethylhexyl)phthalate (DEHP)	117817
Bis(chloromethyl)ether	542881
Bromoform	75252
1,3-Butadiene	106990
Caprolactam	105602
Carbon disulfide	75150
Carbon tetrachloride	56235
Carbonyl sulfide	463581
Catechol	120809

Chemical name	CAS No.
Chloroacetic acid	79118
2-Chloroacetophenone	532274
Chlorobenzene	108907
Chloroform	67663
Chloromethyl methyl ether	107302
Chloroprene	126998
Cresols (isomers and mixture)	1319773
o-Cresol	95487
m-Cresol	108394
p-Cresol	106445
Cumene	98828
2,4-D (2,4-Dichlorophenoxyacetic acid, including salts and esters)	94757
DDE (1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene)	72559
Diazomethane	334883
Dibenzofuran	132649
1,2-Dibromo-3-chloropropane	96128
Dibutylphthalate	84742
1,4-Dichlorobenzene	106467
3,3'-Dichlorobenzidine	91941
Dichloroethyl ether (Bis(2-chloroethyl)ether)	111444
1,3-Dichloropropene	542756
Diethanolamine	111422
N,N-Dimethylaniline	121697
Diethyl sulfate	64675
3,3'-Dimethoxybenzidine	119904
4-Dimethylaminoazobenzene	60117
3,3'-Dimethylbenzidine	119937
Dimethylcarbamoyl chloride	79447
N,N-Dimethylformamide	68122
1,1-Dimethylhydrazine	57147
Dimethyl phthalate	131113
Dimethyl sulfate	77781
4,6-Dinitro-o-cresol, and salts	
2,4-Dinitrophenol	51285
2,4-Dinitrotoluene	121142
1,4-Dioxane (1,4-Diethyleneoxide)	123911
1,2-Diphenylhydrazine	122667
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106898
1,2-Epoxybutane	106887
Ethyl acrylate	140885
Ethylbenzene	100414
Ethyl carbamate (Urethane)	51796
Ethyl chloride (Chloroethane)	75003

Chemical name	CAS No.
Ethylene dibromide (Dibromoethane)	106934
Ethylene dichloride (1,2-Dichloroethane)	107062
Ethylene glycol	107211
Ethylene oxide	75218
Ethylenethiourea	96457
Ethylidene dichloride (1,1-Dichloroethane)	75343
Formaldehyde	50000
Glycol ethers	0
Hexachlorobenzene	118741
Hexachloro-1,3-butadiene	87683
Hexachloroethane	67721
Hexamethylene-1,6-diisocyanate	822060
Hexamethylphosphoramide	680319
Hexane	110543
Hydrazine	302012
Hydroquinone	123319
Isophorone	78591
Maleic anhydride	108316
Methanol	67561
Methyl bromide (Bromomethane)	74839
Methyl chloride (Chloromethane)	74873
Methyl chloroform (1,1,1-Trichloroethane)	71556
Methyl ethyl ketone (2-Butanone)	78933
Methylhydrazine	60344
Methyl iodide (Iodomethane)	74884
Methyl isobutyl ketone (Hexone)	108101
Methyl isocyanate	624839
Methyl methacrylate	80626
Methyl tert-butyl ether	1634044
4,4'-Methylenebis(2-chloroaniline)	101144
Methylene chloride (Dichloromethane)	75092
4,4'-Methylenediphenyl diisocyanate (MDI)	101688
4,4'-Methylenedianiline	101779
Naphthalene	91203
Nitrobenzene	98953
4-Nitrobiphenyl	92933
4-Nitrophenol	100027
2-Nitropropane	79469
N-Nitroso-N-methylurea	684935
N-Nitrosodimethylamine	62759
N-Nitrosomorpholine	59892
Phenol	108952
p-Phenylenediamine	106503
Phosgene	75445

Chemical name	CAS No.
Phthalic anhydride	85449
Polychlorinated biphenyls (Aroclors)	1336363
Polycyclic Organic Matter[b]	0
1,3-Propane sultone	1120714
beta-Propiolactone	57578
Propionaldehyde	123386
Propoxur (Baygon)	114261
Propylene dichloride (1,2-Dichloropropane)	78875
Propylene oxide	75569
1,2-Propylenimine (2-Methyl aziridine)	75558
Quinone	106514
Styrene	100425
Styrene oxide	96093
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016
1,1,2,2-Tetrachloroethane	79345
Tetrachloroethylene (Perchloroethylene)	127184
Toluene	108883
2,4-Toluenediamine	95807
Toluene-2,4-diisocyanate	584849
o-Toluidine	95534
1,2,4-Trichlorobenzene	120821
1,1,2-Trichloroethane	79005
Trichloroethylene	79016
2,4,5-Trichlorophenol	95954
2,4,6-Trichlorophenol	88062
Triethylamine	121448
Trifluralin	1582098
2,2,4-Trimethylpentane	540841
Vinyl acetate	108054
Vinyl bromide	593602
Vinyl chloride	75014
Vinylidene chloride (1,1-Dichloroethylene)	75354
Xylenes (isomers and mixture)	1330207
o-Xylene	95476
m-Xylene	108383
p-Xylene	106423

a Includes mono- and di-ethers of ethylene glycol, diethylene glycols and triethylene glycol; R-(OCH_2CH_2)RR-OR where:

n = 1, 2, or 3,

R = alkyl or aryl groups

R' = R, H, or groups which, when removed, yield glycol ethers with the structure: R-$(OCH_2CH_2)_n$ - OH. Polymers are excluded from the glycol category.

b Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100° C.

TABLE 3. POLLUTANTS EXCLUDED FROM USE IN CLEANING AND WASHOFF SOLVENTS [1]

Chemical name	CAS No.
4-Aminobiphenyl	92671
Styrene oxide	96093
Diethyl sulfate	64675
N-Nitrosomorpholine	59892
Dimethyl formamide	68122
Hexamethylphosphoramide	680319
Acetamide	60355
4,4'-Methylenedianiline	101779
o-Anisidine	90040
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016
Beryllium salts	-
Benzidine	92875
N-Nitroso-N-methylurea	684935
Bis(chloromethyl)ether	542881
Dimethyl carbamoyl chloride	79447
Chromium compounds (hexavalent)	-
1,2-Propylenimine (2-Methyl aziridine)	75558
Arsenic and inorganic arsenic compounds	99999904
Hydrazine	302012
1,1-Dimethyl hydrazine	57147
Beryllium compounds	7440417
1,2-Dibromo-3-chloropropane	96128
N-Nitrosodimethylamine	62759
Cadmium compounds	-
Benzo (a) pyrene	50328
Polychlorinated biphenyls (Aroclors)	1336363
Heptachlor	76448
3,3'-Dimethyl benzidine	119937
Nickel subsulfide	12035722
Acrylamide	79061
Hexachlorobenzene	118741
Chlordane	57749
1,3-Propane sultone	1120714
1,3-Butadine	106990

[1] Solvents containing these pollutants in concentrations less than or equal to 0.1% may be used

Chemical name	CAS No.
Nickel refinery dust	-
2-Acetylaminoflourine	53963
3,3'-Dichlorobenzidine	53963
Lindane (hexachlorcyclohexane, gamma)	58899
2,4-Toluene diamine	95807
Dichloroethyl ether (Bis (2-chloroethyl)ether)	111444
1,2- Diphenylhydrazine	1222667
Toxaphene (chlorinated camphene)	8001352
2,4-Dinitrotoluene	121142
3,3'-Dimethoxybenzidine	119904
Formaldehyde	50000
4,4'-Methylene bis(2-chloroaniline)	101144
Acrylonitrile	107131
Ethylene dibromide(1,2-Dibromoethane)	106934
DDE (1,1-p-chlorophenyl 1-2 dichloroethylene)	72559
Chlorobenzilate	510156
Dichlorvos	62737
Vinyl chloride	75014
Coke Oven Emissions	99999908
Ethylene oxide	75218
Ethylene thiourea	96457
Vinyl bromide (bromoethene)	593602
Selenium sulfide (mono and di)	7488564
chloroform	67663
Pentachlorophenol	87865
Ethyl carbamate (Urethane)	51796
Ethylene dichloride (1,2-Dichloroethane)	107062
Propylene dichloride (1,2-Dichloropropane)	78875
Carbon tetrachloride	56235
Benzene	71432
Methyl hydrazine	60344
Ethyl acrylate	140885
Propylene oxide	75569
Aniline	62533
1,4-Dichlorobenzene(p)	106467
2,4,6-Trichlorophenol	88062
Bis(2-ethylhexyl)phthalate (DEHP)	117817
o-Toluidine	95534
Propoxur	114261
Trichloroethylene	79016
1,4-Dioxane (1,4-Diethyleneoxide)	123911
Acetaldehyde	75070
Bromoform	75252
Captan	133062

Chemical name	CAS No.
Epichlorohydrin	106898
Methylene chloride (Dichloromethane)	75092
Tetrachloroethylene (Perchloroethylene)	127184
Dibenz (ah) anthracene	53703
Chrysene	218019
Dimethyl aminoazobenzene	60117
Benzo (a) anthracene	56553
Benzo (b) fluoranthene	205992
Antimony trioxide	1309644
2-Nitropropane	79469
1,3-Dichloropropene	542756
7, 12-Dimethylbenz(a)anthracene	57976
Benz(c)acridine	225514
Indeno(1,2,3-cd)pyrene	193395
1,2:7,8-Dibenzopyrene	189559